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We claim:

1. A glass composition comprising about 0.5-30 wt% bismuth oxide, about 0.01-5 wt% zinc oxide, and about 54-70 wt% silica oxide.
- 5 2. The composition of claim 1, comprising about 1-2 wt% bismuth oxide.
3. The composition of claim 1, comprising about 9-15 wt% bismuth oxide.
- 10 4. The composition of claim 1, wherein the composition comprises less than about 0.1 wt% CoO, ZrO₂ or TiO₂.
5. The composition of claim 1, wherein the fraction (wt%) of bismuth oxide and zinc oxide in relation to silica oxide is about 0.059 to about 0.29.
- 15 6. The composition of claim 1, wherein the glass composition has a softening point of less than about 703°C.
7. A glass composition comprising about 1-15 wt% bismuth oxide and about 54-70 wt% silica oxide.
- 20 8. The composition of claim 7, wherein the composition comprises less than about 0.1 wt% CoO, ZrO₂ or TiO₂.
- 25 9. The composition of claim 7, comprising about 1-2 wt% bismuth oxide.
10. The composition of claim 7, comprising about 9-15 wt% bismuth oxide.

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11. The composition of claim 7, further comprising

	Weight Percent (about)
Al_2O_3	1 - 5 wt %
CaO	3 - 7 wt %
MgO	1 - 5 wt %
B_2O_3	4 - 9 wt %
Na_2O	9 - 20 wt %

12. The composition of claim 11, wherein the glass composition has a softening point of less than about 703°C.

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13. A glass fiber comprising about .5-30 wt% bismuth oxide and about 54-70 wt% silica oxide.

14. The glass fiber of claim 13, comprising about 1-15 wt% bismuth oxide.

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15. The glass fiber of claim 14, further comprising about 0.1 to about 5 wt% zinc oxide.

16. The glass fiber of claim 13, further comprising

	Weight Percent (about)
Al_2O_3	1 - 5 wt %
CaO	3 - 7 wt %
MgO	1 - 5 wt %
B_2O_3	4 - 9 wt %
Na_2O	9 - 20 wt %
K_2O	0.0001 - 3 wt %
NiO	0.0001 - 2 wt %
BaO	0.0001 - 5 wt %
Ag_2O	0.0001 - 1 wt %
F_2	0.0001 - 1 wt %

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17. The glass fiber of claim 13, wherein the fraction (wt %) of bismuth oxide and zinc oxide in relation to silica oxide is about 0.059 to about 0.29.

18. The glass fiber of claim 13, having a density of about 2.5 to about 2.85.

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19. The glass fiber of claim 13, wherein the elemental leach rate of the glass fiber is about 2.6-4.5 (wt%) over about 3 hours in a solution of boiling H₂SO₄ acid having a specific gravity of about 1.265.

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20. The glass fiber of claim 13, wherein the elemental leach rate of the glass fiber is about 10.27 to about 16.34 (wt%) over about 3 hours in a 125°F solution of 30% KOH.

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21. The glass fiber of claim 13, having a Kdis of less than about 150 ng/cm²h.

22. A battery separator comprising glass fibers, wherein the glass fibers comprise about 0.5-30 wt% bismuth oxide and about 54-70 wt% silica oxide.

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23. The battery separator of claim 22, wherein the glass fibers further comprise about 0.1 to about 5 wt% zinc oxide.

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24. A method of inhibiting hydrogen off-gassing in a lead-acid battery comprising inserting a battery separator comprising glass fibers comprising about 0.5-30 wt% bismuth oxide and about 54-70 wt% silica oxide between the electrode plates of the battery.